



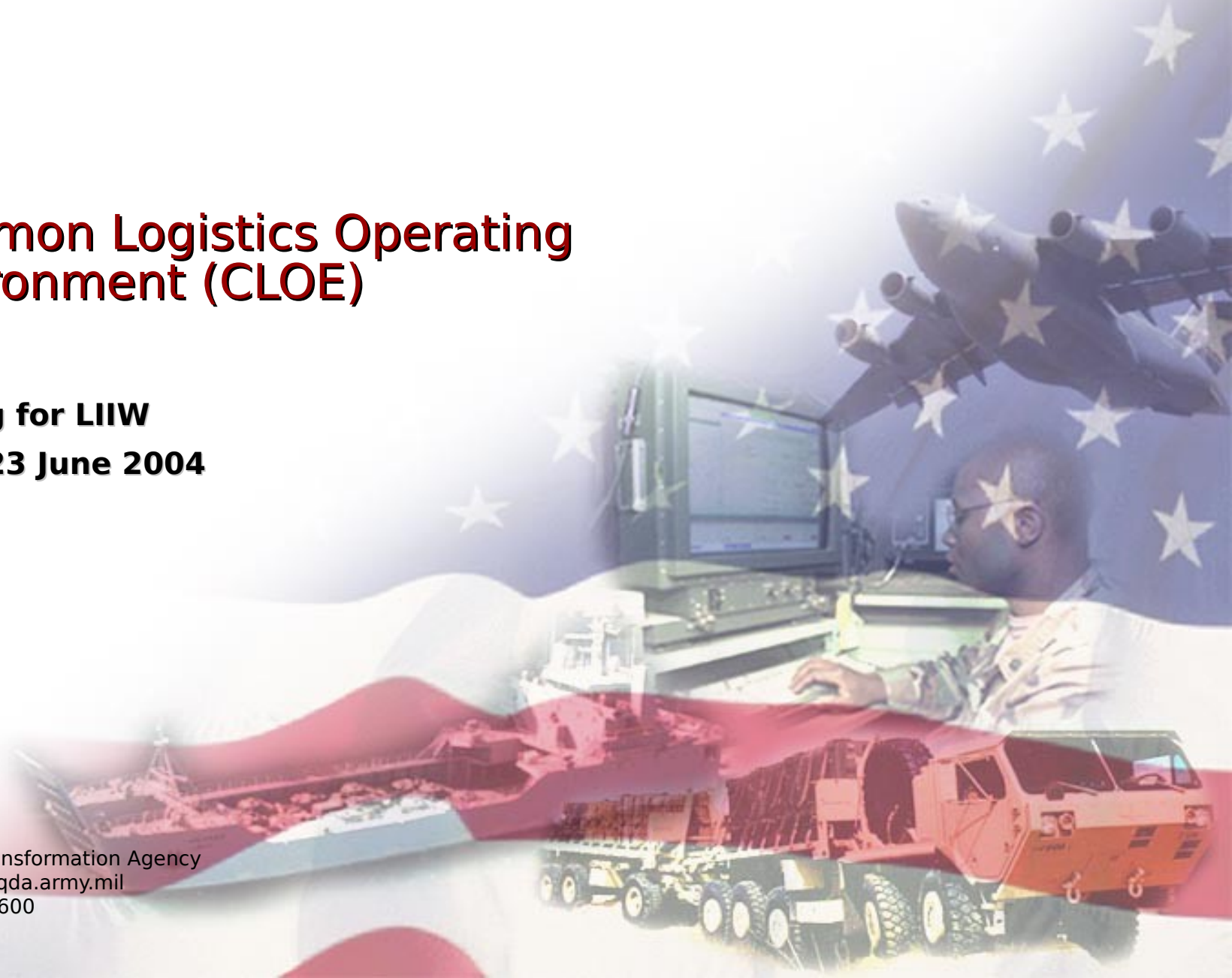
United States Army Logistics Transformation Agency

Common Logistics Operating Environment (CLOE)

Briefing for LIIW

Date: 23 June 2004

Logistics Transformation Agency
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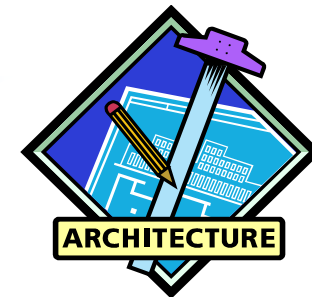


Common Logistics Operating Environment

Vision: “Develop a technology-enabled force equipped with self-diagnosing equipment platforms that interact with a networked sustainment infrastructure to support condition-based maintenance and anticipatory logistics to accelerate implementation of Future Force logistics processes.”



Focus is Logistics Data and Processes From Tactical Through The National Level



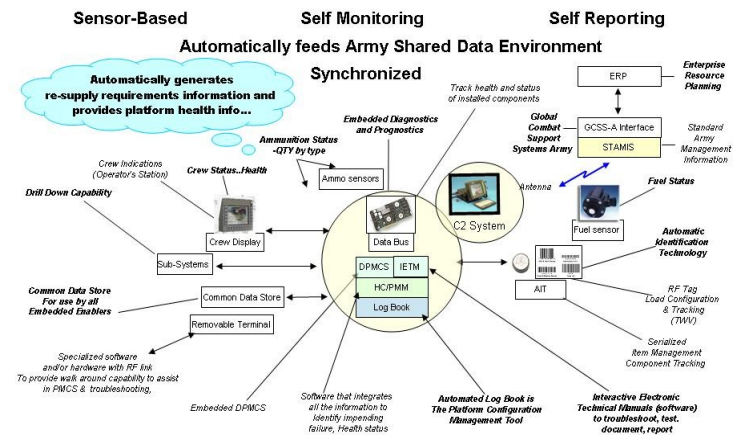
Platforms

Aviation



Soldier

Ground



Platform Enablers

Source: CLOE Concept Paper & Strategy 20 Feb



What is CLOE?

Provide data for
global view of
required Life-
Cycle
Sustainment
Support

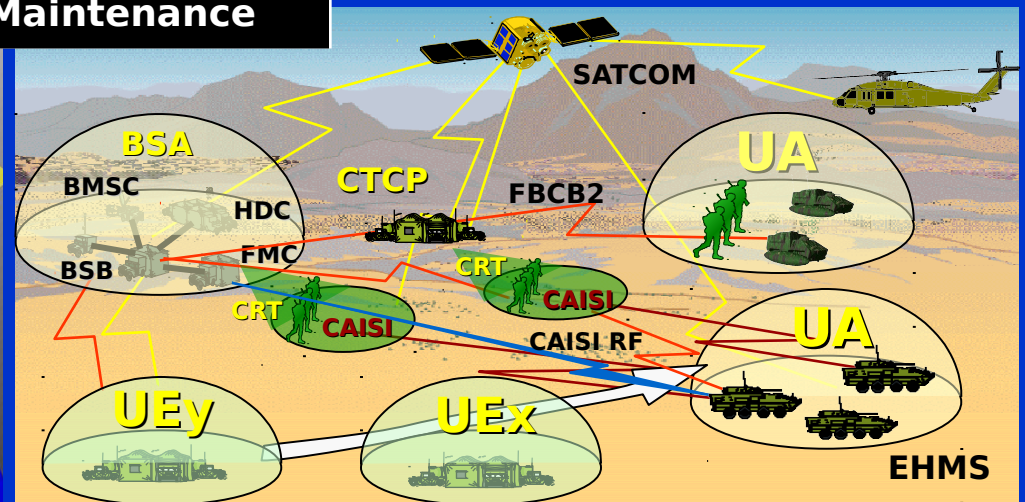
Networked
Logistics

Logistics
Command &
Control

Condition-Based
Maintenance

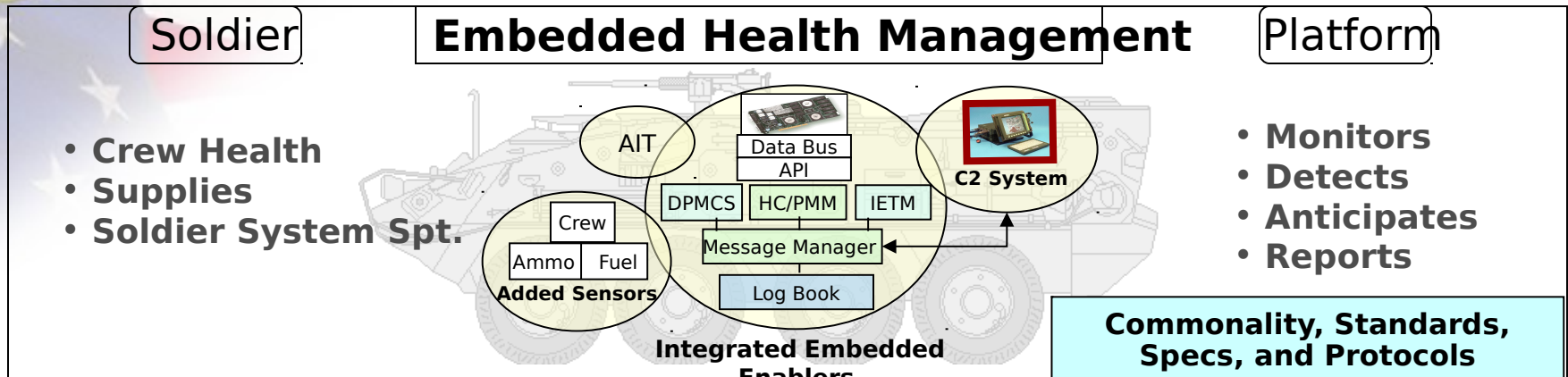
Embedded
Health

*Joint Sustainment -
Part of DoD's Larger,
Comprehensive
Logistic Support
Network*





CLOE Focus Areas



Logistics Situational Awareness and Understanding

Combat Status and Mission Planning

Decision Support & Distributed Logistics



Platform/Soldier Data Requirements

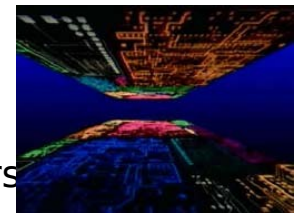
Above BDE

- ERP
- LCOP
- BCS3
- National Level

BDE & Below

- Commanders & SPO
- GCSS-A/T
- Current STAMIS
- Logisticians & Maintainers

Network Enabled



Off-Platform Architecture



CLOE Program Functional Areas

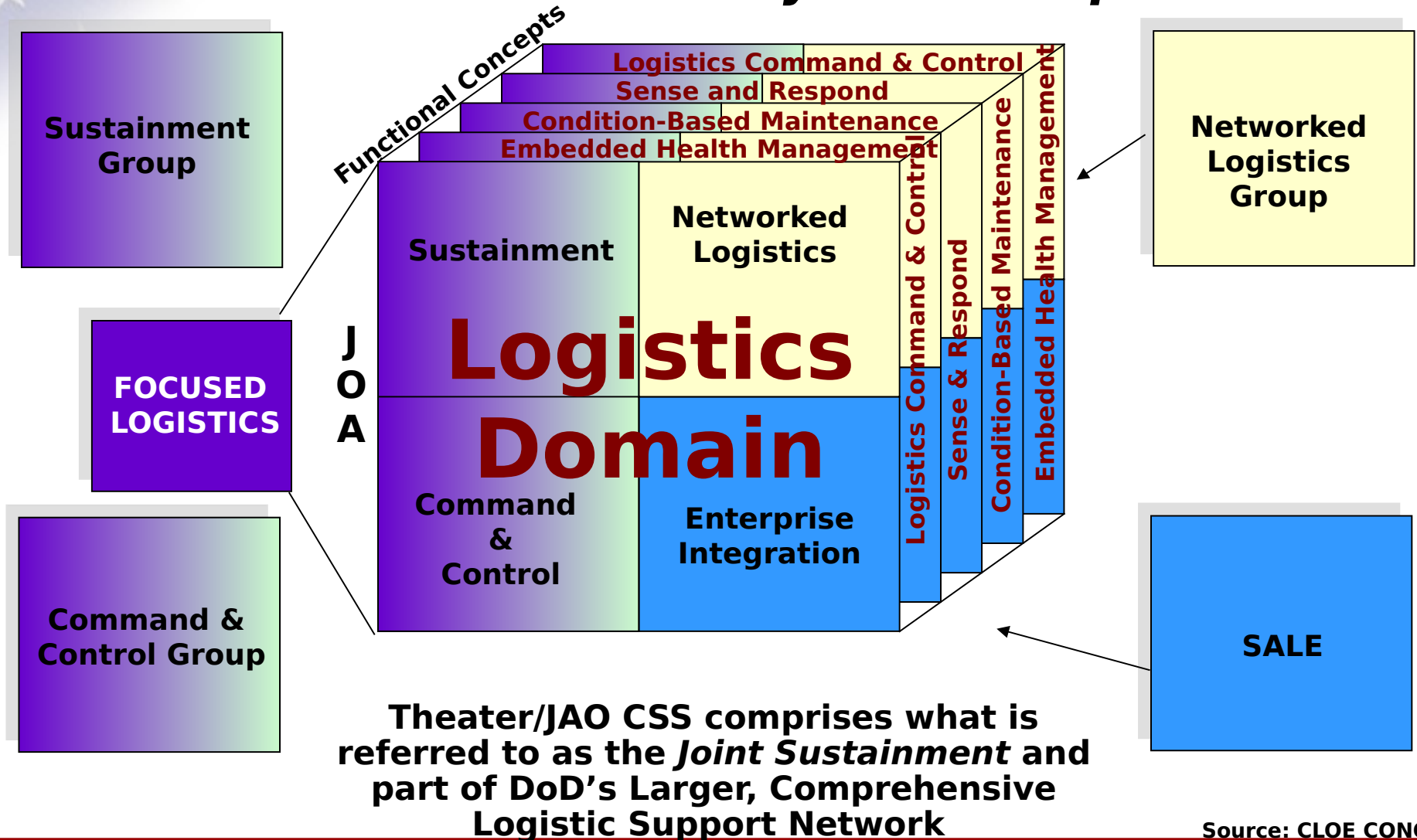
- Five Highly Interrelated and Interactive Areas:
 - Embedded Health Management
 - Condition-Based Maintenance
 - Anticipatory Logistics
 - Command and Control C2 (Warfighter)
 - Logistics C3 Command, Control, & Computers
- Requires Interoperability with other Logistics and Command Information Systems

■ *Requires Integration with DoD Logistics Architect*



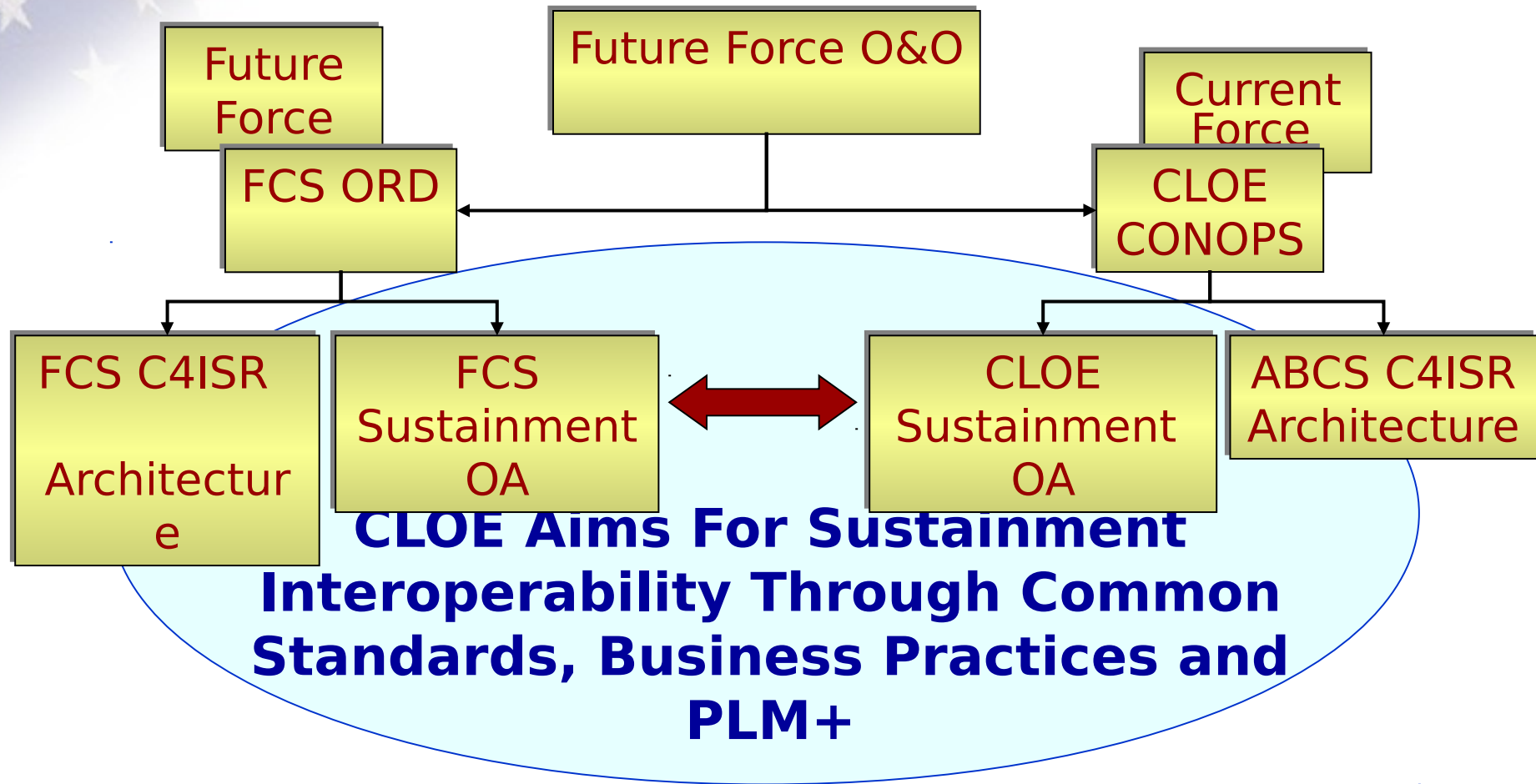
CLOE Framework - Functional Areas

No Redundancy or Overlap.





Sustainment Interoperability Between The Current Force & Future Force



CLOE Requirement in FCS ORD



CLOE/FCS Collaboration Mechanisms

- **MOA**
 - Signed 28 May 04
- **IPT Participation**
 - Supportability
 - Log Products
- **Selected Design & Requirements Reviews**
 - PS-MRS
 - LDSS
- **SIL Integration**
- **SALE Modeling**
 - CLOE OA, V1 (SBCT Ground) used as the basis for module for Army Tactical Maintenance Module
- **ACE**
- **Ad Hoc Collaboration as required**



Architecture – OA Purpose & Scope

- **Purpose:** Establishes the Anticipated Functional Information Exchanges required between Geographically-Separate Elements to Enable the Delivery of Logistic Services in Support of Deployed Operations (Joint/Combined) across the Full Range of Military Operations in a **Theater/Joint Area of Operations**
- **Scope: Mandatory Products**
 - AV-1 Overview and Summary Information
 - OV-1 High-Level Operational Concept Description
 - OV-2 Operational Node Connectivity Description
 - OV-3 Operational Information Exchange Matrix
 - OV-5 Activity Model
 - OV-7 Logical Data Model
 - AV-2 Integrated Dictionary
- **Supporting Products**
 - OV-4 Organizational Relationships Charts
 - OV-6 (a, b, c) Operational Sequence & Timing Description



OA Functional & Operational Areas

The Architecture v1.0 Addresses the Relationship between the TRADOC Functional Areas and the Stryker Brigade Combat Team (SBCT) Operational Areas

Maintenance Functional Areas

Preventive Maintenance Checks and Services

Recovery/Retrograde Disabled Equip.

Diagnose Equipment Faults

Replace Components

Repair and Return Equip. to User

Logistics Functional Areas

Supply

Class III, V, IX

Transportation

Medical

Operational Areas

• Platform

• CRT

• CTCP

• FMC

• BSB TOC

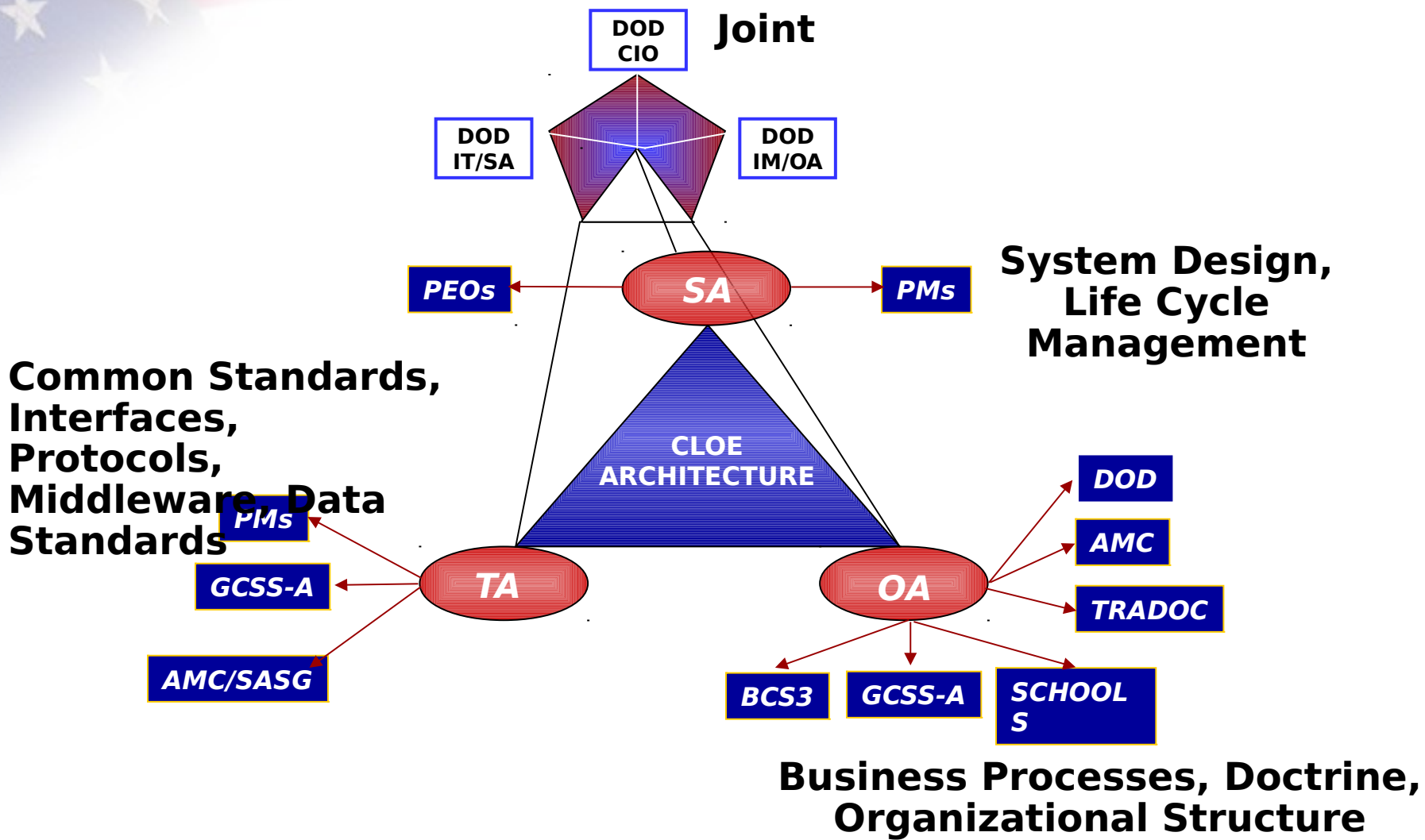
• HDC (Supply & Transportation)

• BSMC

Source: TRADOC Regulation 350-1

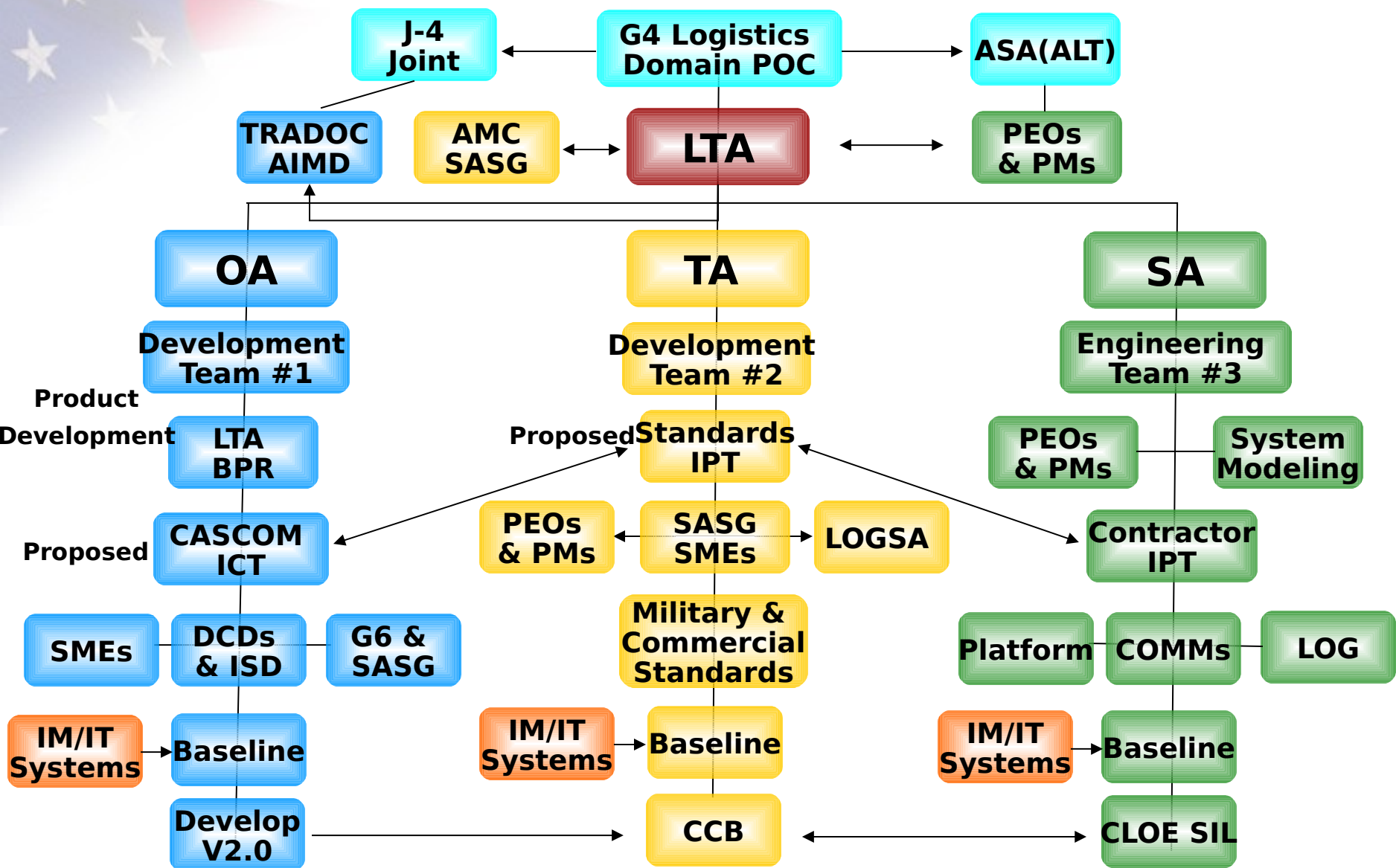


Organizational Stakeholders





Architecture Development Teams (Concept)



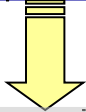


Spiral Development

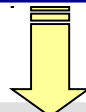
The CLOE Architecture is an Evolving Environment of Systems Integration and Interoperability

STARTING POINT

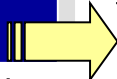
CLOE
Architecture 1.0
SBCT



4th ID RESET
v1.1



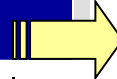
+Aviation
V2.0



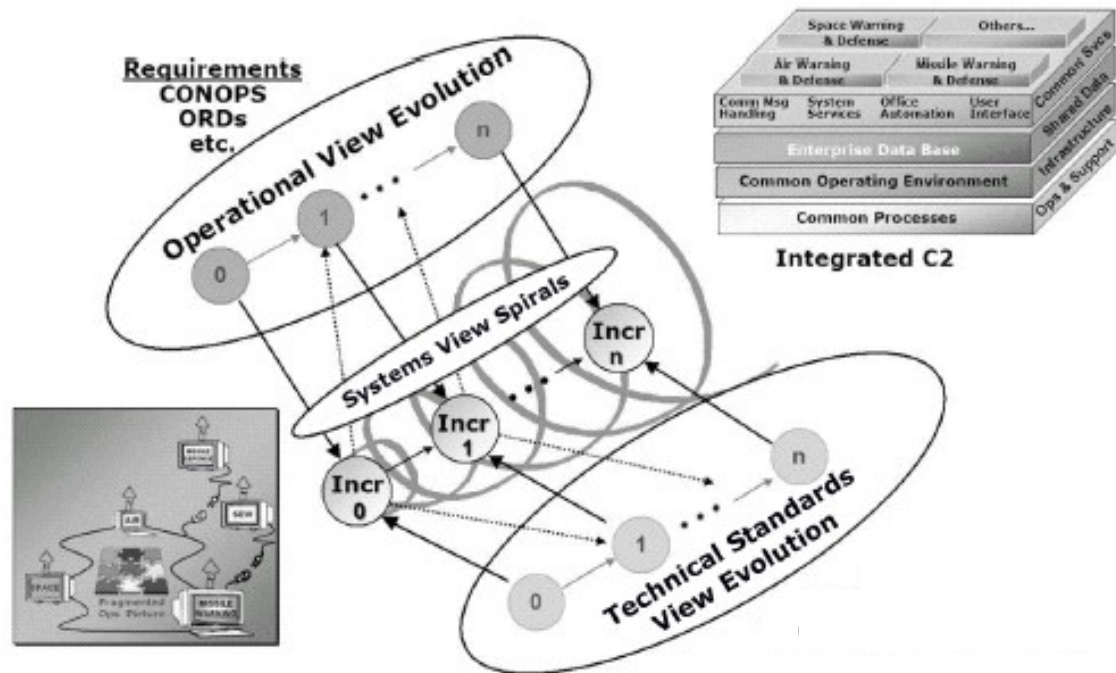
+Soldier
Systems v3.0



+ Engineer
& Watercraft
V4.0

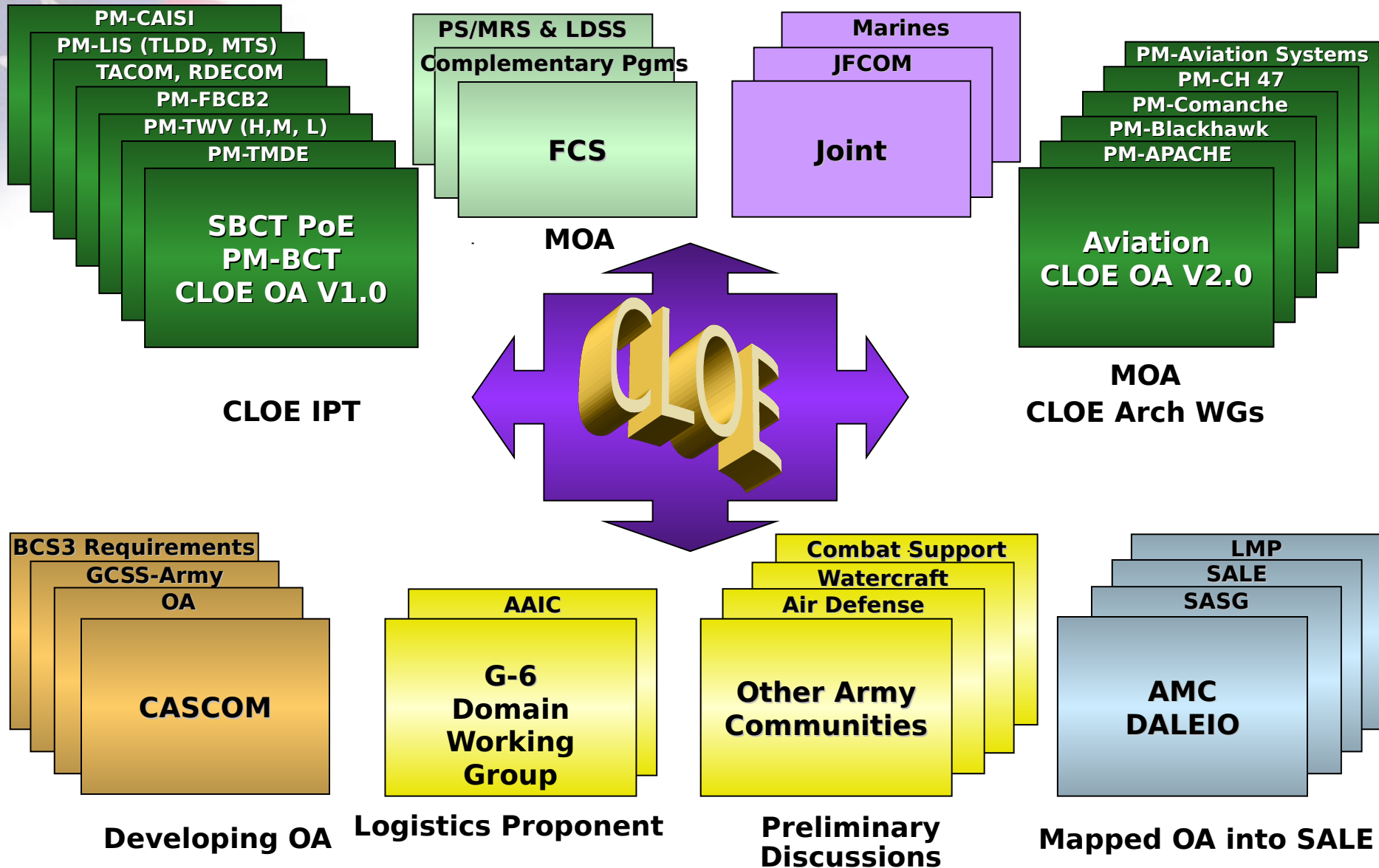


+FCS
V5.0



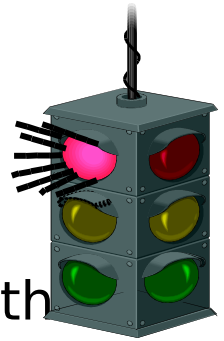


CLOE Working Relationships





Thoughts to take away



- CLOE Is A Collaborative, Living Process That Works With Major Army Agencies, Organizations and Programs
- The CLOE Architecture is an evolving environment of systems integration and interoperability
- CLOE Is The Only Initiative That Addresses Big Picture Sustainment Interoperability Among Current and Future Forces With Respect to Condition-Based Maintenance and Anticipatory Logistics

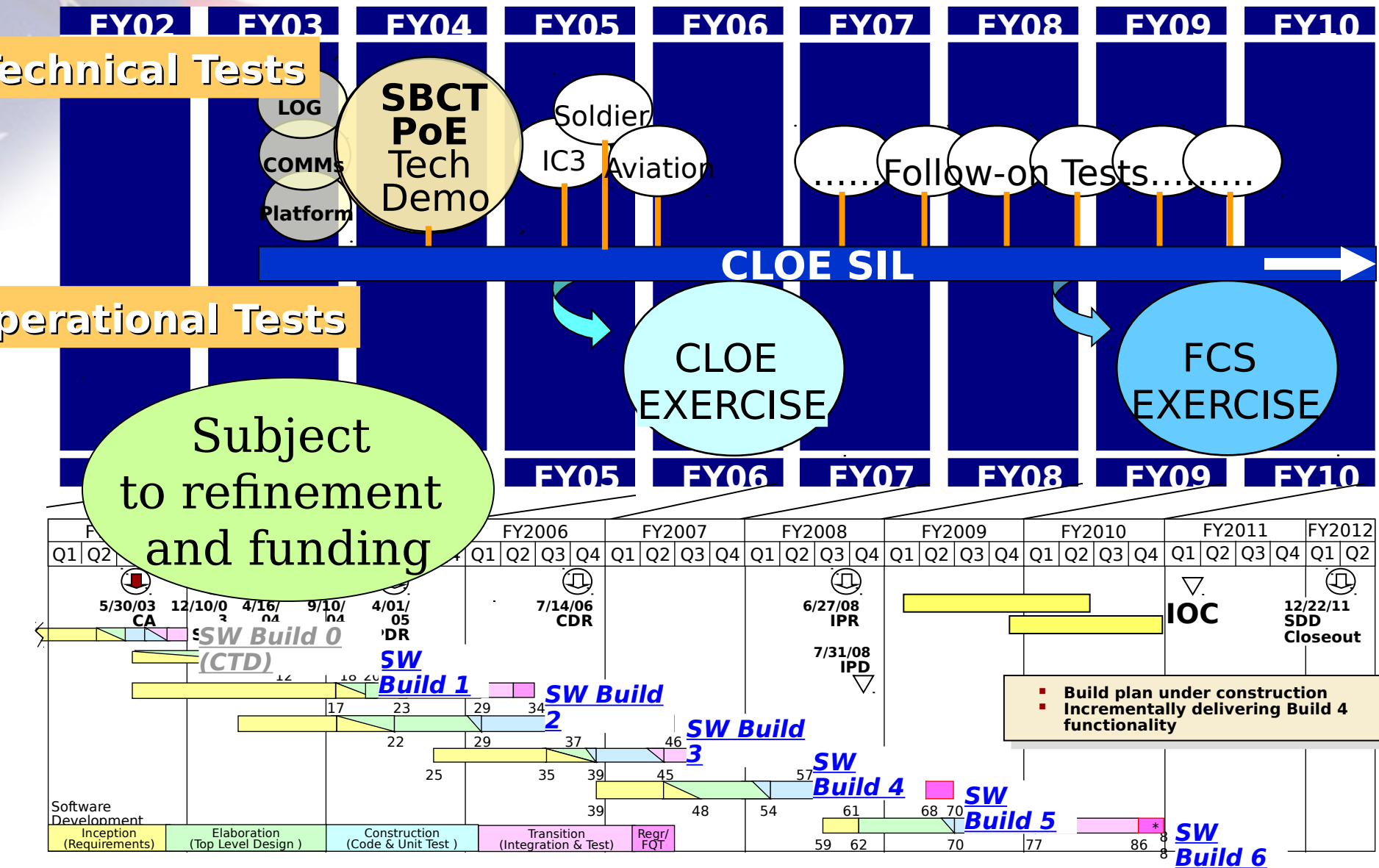
"The line between disorder and order lies in logistics..."
- Sun Tzu



Backup Slides – Examples of OA, SA & TA

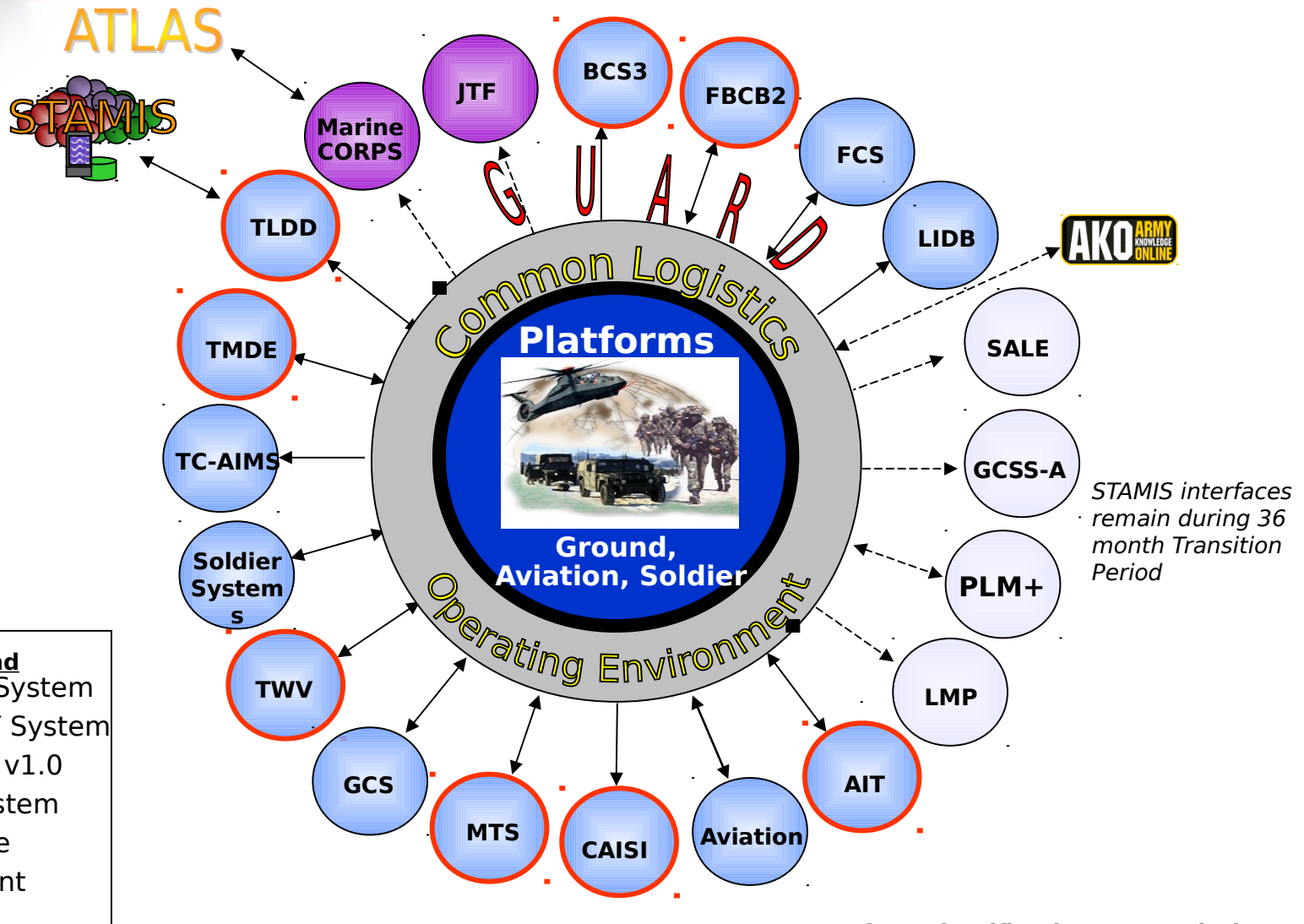


Potential CLOE - FCS Schedule Integration





CLOE Army System Interfaces (OV-2)

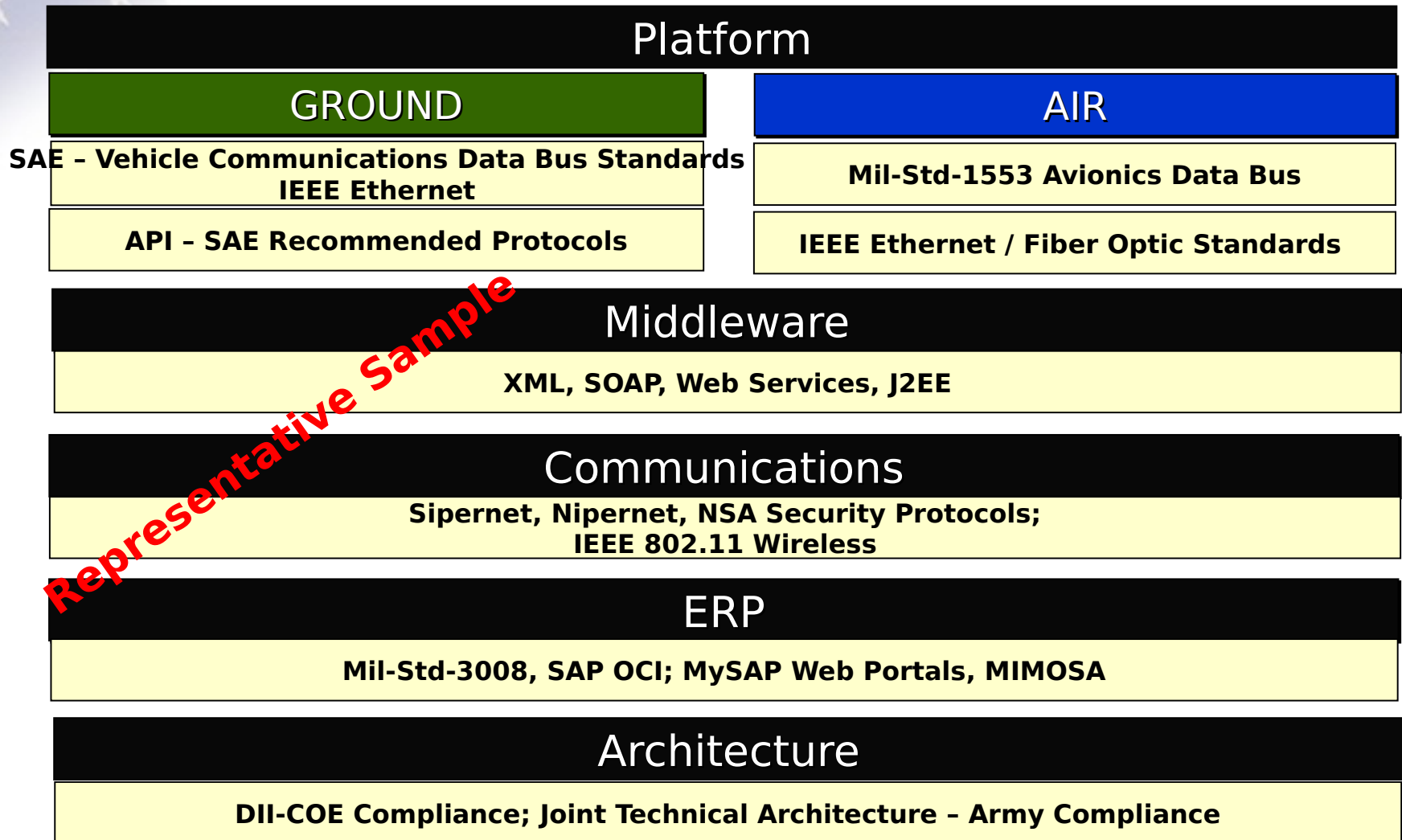


Source: Interface Identification & Description Working Group



Technical Architecture

Commonality Provides for Interoperability

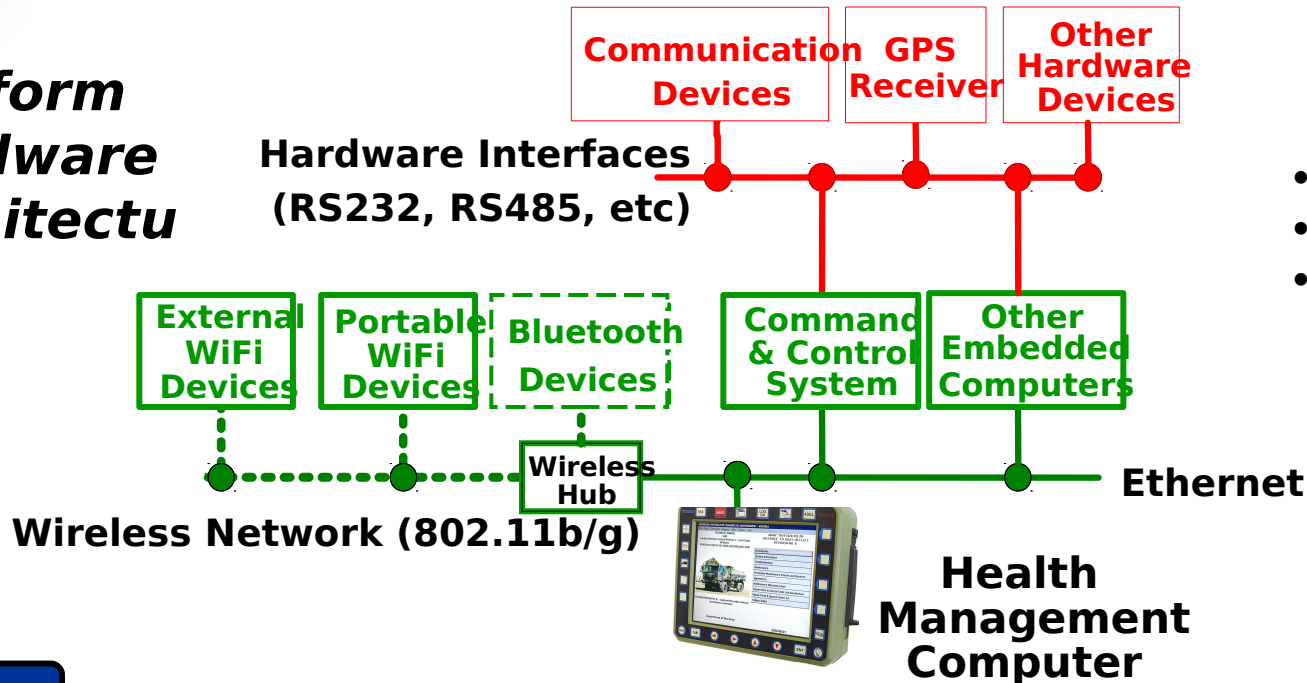




System Architecture (SA)

Sensor-Based and Linked

Platform Hardware Architecture

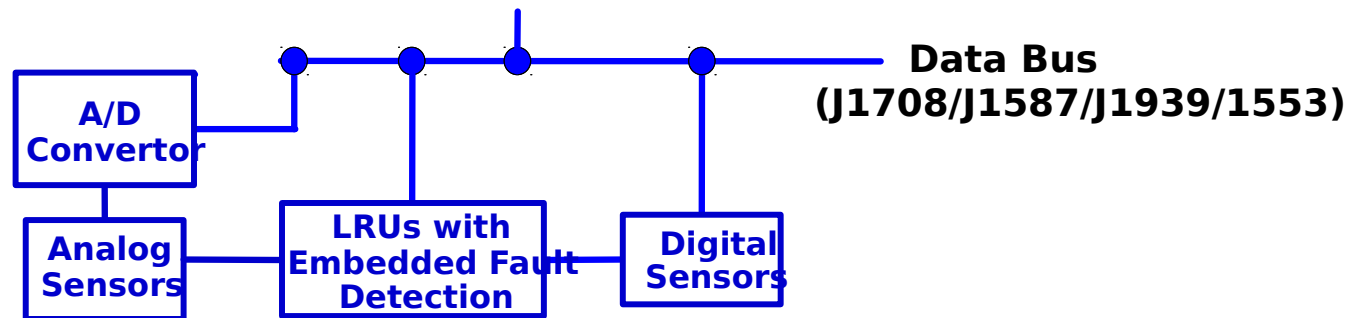


Soldier

- Crew Health
- Supplies
- Soldier System Support

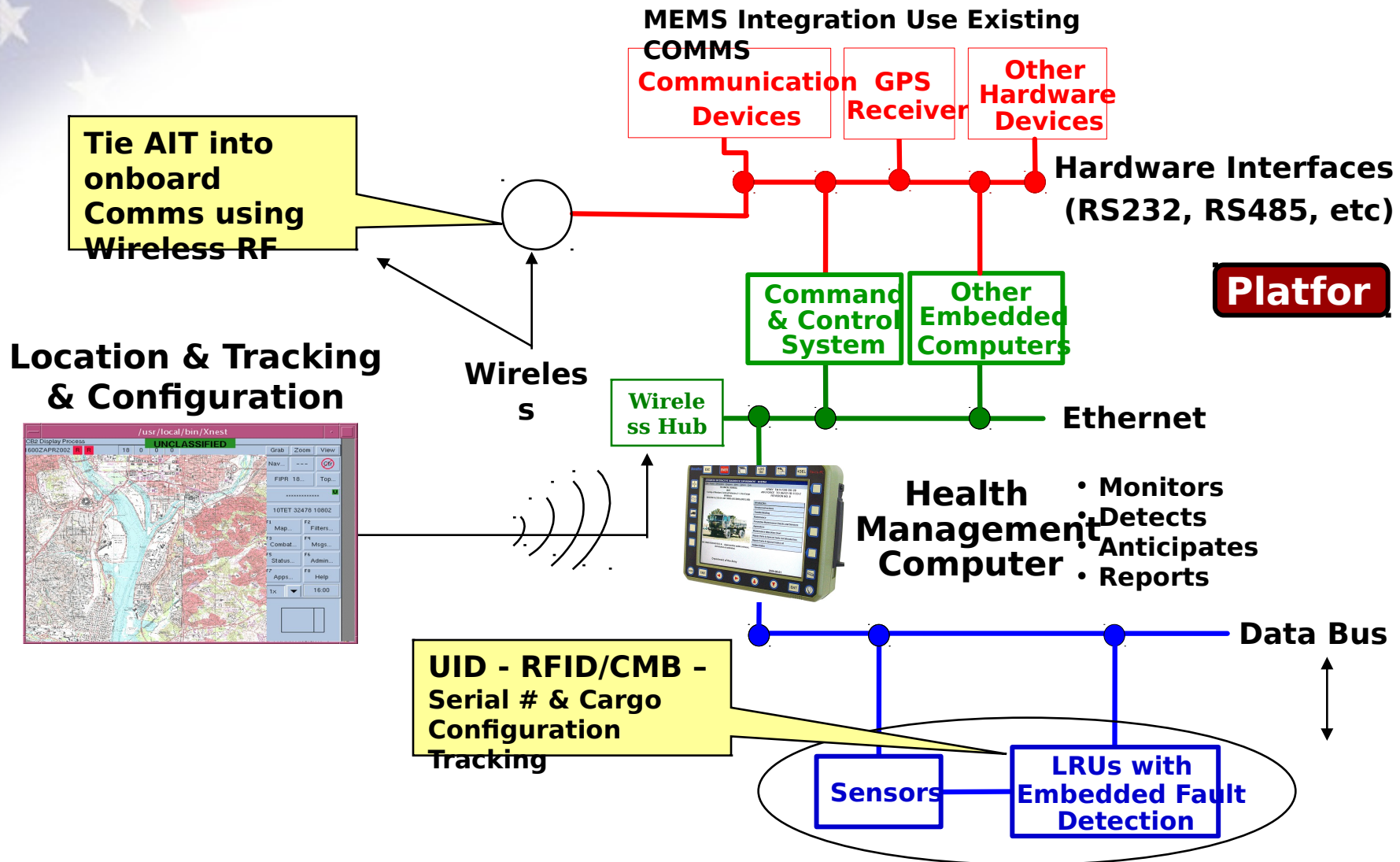
Platform

- Monitors
- Detects
- Anticipates
- Reports





AIT - UID Integration

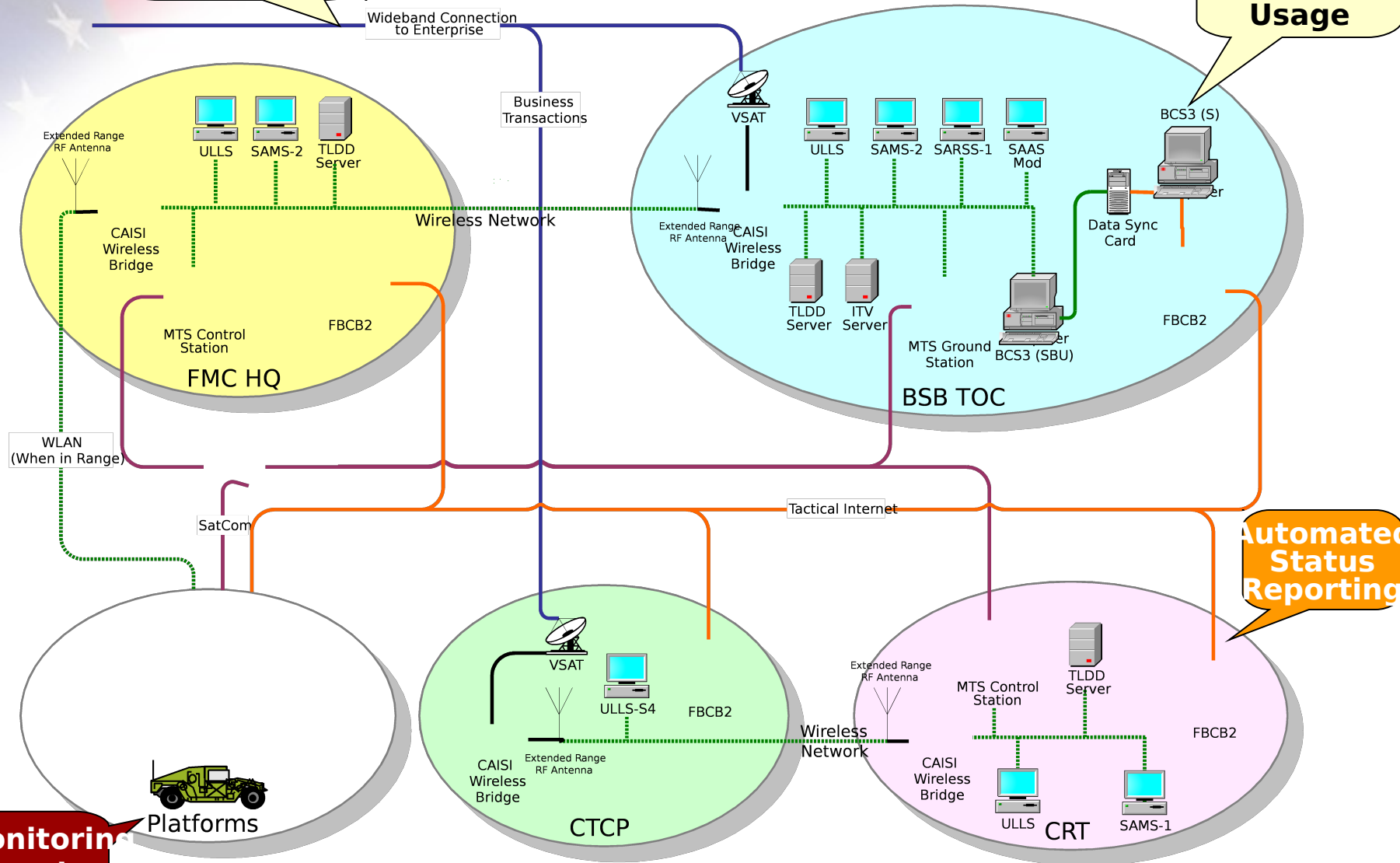




Off-System Architecture

Synchronized Business Processes

Visibility of Consumable Usage

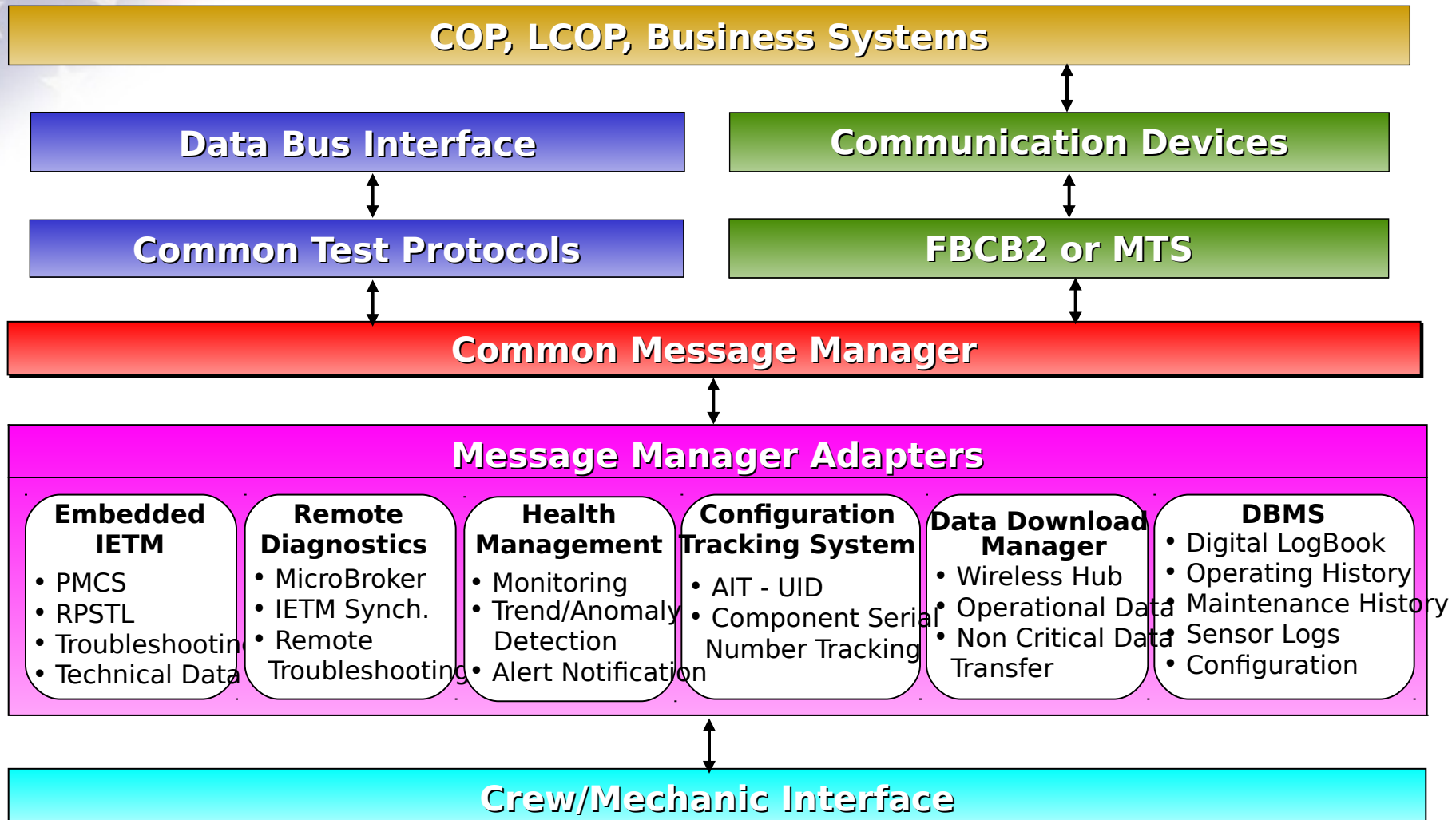


Self-Monitoring & Reporting

Source: CLOE Draft SA v1.1



System Software Architecture



CB2 Display Process

UNCLASSIFIED

1600ZAPR2002

R

R

18

0

0

0

Grab

Zoom

View

Nav...

Ctrl

FIPR 0

Top...

***** U

10TET 32478 10802

F1

Map...

F2

Filters...

F3

Combat...

F4

Msgs...

F5

Status...

F6

Admin...

F7

Apps...

F8

Help

1x



16:00

Representative Sample

	Minimum	Average	Time
Fuel	21%	30%	141600ZAPR2002
Ammo (HE)	70%CL	75%CL	141600ZAPR2002
Ammo (AP)	60%CL	73%CL	141600ZAPR2002
Equip Health	82%	88%	141600ZAPR2002
Crew Health			141600ZAPR2002
Food	62%	70%	140400ZAPR2002
Water	72%	78%	140400ZAPR2002

F A E P O